

DESCRIPTIONS OF NEW SPECIES AND SUBSPECIES OF
NEW ZEALAND MOLLUSCA, WITH NOTES ON A FEW SPECIES.

By HENRY SUTER.

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PLATE XI.

RISSOINA ZONATA, n.sp. Pl. XI, Fig. 1.

Shell rather large, oblong, imperforate, indistinctly axially costate and minutely spirally lirate, body-whorl usually with a brown zone. Sculpture consisting of somewhat indistinct axial riblets, about fourteen on a whorl, and very fine microscopic spiral striæ. Colour white, usually with a chestnut spiral band, beginning narrowly on the penultimate whorl above the suture, and broadening very rapidly on the body-whorl, but leaving the base white. Spire high, about twice the height of the aperture; outlines somewhat convex. Protoconch with a flat nucleus. Whorls about 7, very lightly convex and somewhat flattened below the suture; base flattish. Suture not much impressed. Aperture oblique, semicircular, angled above, channelled below. Outer and basal lip regularly arched, thick, with a rounded edge. Columella very short, slightly twisted and turned to the left, forming a distinct short channel with the slightly effuse basal lip; inner lip very thick, connecting the margins over the slightly excavated parietal wall. Operculum unknown.

Diam. 4·5, height 11·5 mm. Type.

 " 5 " 10·5 "

Hab.—Bay of Islands (Mr. J. C. Anderson).

All the specimens at my disposal are beach-worn, and the axial sculpture is mostly effaced. Type in my collection.

SKENELLA PFEFFERI, n.sp. Pl. XI, Fig. 2.

Shell minute, globosely depressed, thin, pellucid, smooth, shining, umbilicated. There is no sculpture. The colour is amber on the first two whorls, light horn on the last. Epidermis very thin, yellowish, slightly polished. Spire conoidal, very low, convex, its height about one-third that of the aperture. Protoconch flatly convex, rather large. Whorls $2\frac{3}{4}$ to 3, rapidly increasing, convex, the last not descending, ample, with a regularly rounded periphery; base flattish, angled around the umbilicus. Suture deep. Aperture large, subcircular. Peristome convex, sharp, thin. Columella vertical, lightly arcuate; inner lip slightly callous and reflexed, spreading as a distinct callosity over the convex parietal wall. Umbilicus open, about one-sixth of the diameter. Operculum thin, almost colourless, sub-spiral, excentric, the nucleus near the margin, with an elongated, subvertical inner process. Diam. ·8, height ·45 millim.

Hab.—Te Onepoto, near Lyttelton; type (H. S.). Lyall Bay (Miss Mestayer).

I have much pleasure in uniting the name of the distinguished conchologist, Professor Dr. Georg Pfeffer, of Hamburg, with this species.

It is nearly allied to *S. Georgiana*, Pfeffer, from South Georgia, but is much smaller, the spire more depressed, the parietal callus not so strong, and the aperture not semicircular. Type in my collection.

TROPHON (KALYDON) AUCKLANDICUS (E. A. Smith). Pl. XI, Figs. 3, 4.
Euthria Aucklandica, E. A. Smith: Voy. "Southern Cross," Moll., 1902, p. 203, pl. xxiv, figs. 12, 13.

It has been my good fortune to get a specimen with the animal from the Auckland Islands, kindly collected by Captain J. Bollons. The operculum (Fig. 3), with sub-apical nucleus, is muricoid, and the teeth of the radula (Fig. 4) are those of *Trophon*.

The species has also been found at Campbell Island and Preservation Inlet, South Island of New Zealand.

DRUPA BOLLONSI (Suter). Pl. XI, Figs. 5-7.

Purpura striata Bollonsi, Suter: Trans. N. Zeal. Inst., 1905 (1906), vol. xxxviii, p. 331.

Shell (Fig. 5) rather small, ovate, solid, white, with nodulous cingula. Sculpture consisting of strong, somewhat unequal, flatly convex spiral ribs, three on the penultimate and seven on the body-whorl, generally composed of four to six fine spiral threads, the interstices usually a little narrower than the ribs, containing sometimes a fine spiral thread; the cingula are cut up by more or less deep axial sulci into distinct nodules; growth-lines close, oblique, lamellar, reticulating the fine spiral sculpture. Fasciole distinct, lamellar, leaving a deep groove between it and the inner lip. Colour yellowish-white, aperture white within, the outer lip sometimes yellowish or light purple. Spire conic, very variable in height, mostly a little less than the height of the aperture. Protoconch minute. Whorls about 6, flatly convex on the spire, the body-whorl usually more convex, contracted above the fasciole. Suture well impressed. Aperture subvertical, ovate, channelled above, produced below into a short, open, and deeply notched canal. Outer lip convex, crenulate, much thickened inside, very strongly dentate-lirate. Columella subvertical, almost straight, twisted and tapering below; inner lip moderately broad, very broadly extended over the somewhat concave parietal wall, which bears a small tubercle below the suture; with three transverse median folds, excavated below, with a free edge bending over the groove margining the fasciole. Operculum (Fig. 6) with the nucleus lateral.

Diam. 19, height 32 mm. Largest specimen, 6 whorls.

„ 16, „ 22 „ Small „ 6 „

Dentition (Fig. 7): central tooth with a long simple median cusp, followed on each side by a quadridentate cusp, with the median tooth large, the inner denticle much smaller, and the outer two minute; towards the margin there are on each side four small denticles, the distal one a little larger.

Hab. — L'Espérance or French Rock, Kermadec Islands; type (Captain J. Bollons). Bay of Islands (J. C. Anderson). Type in my collection.

TEREBRA TRISTIS, Desh., n.subsp. CRASSICOSTATA.

Distinguished from the species by the following characters: the shell is much smaller, the axial costæ are stouter, broadly rounded, of the same width as the interstices; fine spiral liræ are also present. Colour yellowish-white, a light-brown band below the suture, and a white band below the periphery arising from the suture; base fulvous. Diam. 3·5, height 10 mm.

Hab.—Lyll Bay (Miss Mestayer). Type in my collection.

TEREBRA FLEXICOSTATA, n.sp. Pl. XI, Fig. 8.

Shell subulate, axially flexuously plicate, shining, brown, with a pale band below the suture. Sculpture consisting of irregularly spaced, flexuous, flatly rounded axial plications, obsolete on the body-whorl, the interstices with fine growth-lines; indistinct, fine, microscopic, spiral striæ are present. Colour fulvous or flamed with fulvous and white, a light-brown or white band below the suture, no peripheral band on the body-whorl. Spire high, angle about 20°. Protoconch smooth, conical. Whorls about 10, first slowly, then more rapidly increasing, very flatly convex; base rounded, somewhat contracted above the basal rib. Suture impressed. Aperture subvertical, narrowly oval, with a short and rather narrow canal, narrowly notched below. Outer lip broadly convex, sharp. Columella subvertical, lightly convex, narrowly drawn out to a point at the base of the canal, somewhat excavated on joining the flat parietal wall above; inner lip thin and narrow. Operculum unknown. Diam. 5, height 18·5 mm.

Hab.—Cape Maria van Diemen (Captain J. Bollons); Port Waikato (Webster).

The *T. venosa*, Hinds, reported as having been found at Cape Maria van Diemen and Port Waikato by Webster (Trans. N.Z. Inst., xxxvii, p. 280), is no doubt this species; it is allied to the Australian *T. Brazieri*, Angas, but the whorls are flatter, the riblets straighter, and the spire is more slowly tapering. Type in my collection.

TORNATINA BIPPLICATA, n.sp. Pl. XI, Fig. 9.

Shell small, cylindrical, mucronate, thin, smooth, with a sharp columellar plait and a broadly rounded fold below it. Sculpture: the perfectly smooth surface shows only indistinct growth-lines. Colour white. Spire slightly depressed, the nucleus raised above the level of the body-whorl. Protoconch papillary, rather small, tilted. Whorls 4, sharply angled above, the last sub-cylindrical, slightly descending; base rounded. Suture channelled. Aperture vertical, very narrow above, much widened below. Outer lip thin, sharp, considerably arched forward at the middle, convex above and at base. Columella with a very oblique, narrow, and sharp plait at the junction with the parietal wall, twisted below, forming a very distinct, broadly

rounded fold; inner lip spreading narrowly and thinly over the lightly convex parietal wall. Diam. 2, height 3·8 mm.

Hab.—Lyall Bay, Cook Strait (A. Hamilton). Type in my collection.

TORNATINA CHARLOTTÆ, n.sp. Pl. XI, Fig. 10.

Shell small, oblong, thin, smooth, with projecting nucleus and distinct columellar fold. Sculpture consisting of fine, curved growth-lines only. Colour white. Spire depressed, almost flat, the nucleus only rising above the last whorl. Protoconch papillary, tilted, sinistral. Whorls 4, angled above, the last nearly as high as the shell, angularly rounded above, slightly narrowed at the base, sides straight. Suture channelled. Aperture high, narrow above, widened below. Outer lip thin and sharp, its edge arched forward at the middle, narrowly convex above, broadly and regularly rounded at the base. Columella vertical, slightly arcuate, with a distinct broad fold below, which has a slightly impressed median groove; at the junction with the parietal wall a blunt angle is formed; inner lip thin, indistinct. Diam. 1·6, height 3·1 mm.

Hab.—Queen Charlotte Sound, in 16 fathoms (Captain J. Bollons). Type in my collection.

TORNATINA COOKIANA, n.sp. Pl. XI, Fig. 11.

Shell small, oblong, with slightly raised spire, thin, white, smooth. Sculpture consisting of very fine dense growth-lines only. Colour white. Spire raised, conoidal, one-fifth to one-sixth the height of the aperture. Protoconch papillary, tilted, sinistral. Whorls $3\frac{1}{2}$, slowly increasing and descending, sharply angled above, the last very high, cylindrical, rounded at the base. Suture channelled. Aperture high, narrow above, considerably widened below. Outer lip moderately strong, sharp, narrowly rounded above, regularly convex below, the median part of the edge arched forward. Columella short, oblique, with a slight fold, forming no distinct angle at the junction with the lightly convex parietal wall; inner lip spreading as a thin callosity over the latter. Diam. 1·5, height 3·2 mm.

Hab.—Lyall Bay, Cook Strait (A. Hamilton). Type in my collection.

TORNATINA DECAPITATA, n.sp. Pl. XI, Fig. 12.

Shell small, sub-cylindrical, truncated at the top, very thin, vitreous, smooth. Sculpture formed by exceedingly fine and dense curved growth-lines. Colour white. Spire depressed, the nucleus not projecting above the body-whorl. Protoconch large, papillary, tilted. Whorls 3, angled above, the last being the height of the shell, straight at the middle, narrowed and rounded at the base. Suture canaliculate. Aperture vertical, as high as the shell, narrow above, widened below. Outer lip thin and sharp, narrowly rounded and somewhat ascending above, slightly advancing at the middle, regularly convex at the base. Columella vertical, lightly arcuate, twisted into a not very distinct fold, forming a prominent angle with the parietal wall, which is convex at its lower part, almost straight above. Diam. 1·5, height 2·8 mm.

Hab.—Hohoura Bay, North Island (R. Buddle). Type in my collection.

TORNATINA TENUILIRATA, n.sp. Pl. XI, Fig. 13.

Tornatina pachys, Watson: Murdoch & Suter, Trans. N.Z. Inst., vol. xxxviii, p. 280; not of Watson.

Shell small, cylindrical, mucronate, thin, white, with microscopic spiral striæ on the lower half. Sculpture consisting of distinct, fine, curved growth-lines and inequidistant microscopic spiral lines on the anterior half of the body-whorl. Colour white. Spire depressed, almost flat, the nucleus only projecting above the last whorl. Protoconch papillary, smooth and glossy, tilted. Whorls 4, narrowly angled above, the last cylindrical, but little narrowed below. Suture channelled. Aperture vertical, nearly as high as the shell, very narrow above, prominently widened below. Outer lip thin, sharp, narrowly rounded above, somewhat advancing at the middle, regularly convex at base. Columella slightly oblique, with a deep-seated fold, forming an inconspicuous angle with the moderately convex parietal wall; inner lip spreading over the latter as a very thin glaze. Diam. 1.6, height 3.2 mm.

After careful comparison with Watson's description and figure I have come to the conclusion that this species is decidedly distinct. I also wish to state that the wrong identification rests with me alone.

PHILINE CONSTRICTA, Murdoch & Suter, n.subsp. AURIFORMIS.
Pl. XI, Figs. 14-17.

Philine Angasi, Crosse: Hutton, Cat. Mar. Moll. N. Zeal., p. 53; Journ. de Conch., 1878, p. 41; Manual N. Zeal. Moll., 1880, p. 123; not of Crosse.

P. aperta, Linné: Index Faun. N. Zeal., p. 69; not of Linné.

Shell (Fig. 14) auriform, subquadrangular, thin and fragile, spirally finely striated, white. Sculpture the same as in the species. Colour white, iridescent in some parts. Periostracum very thin, transparent, shining. Spire sunken, the outer lip narrowly reflexed over the centre. Body-whorl very large, flatly convex, open from below. Outer lip narrowly convex and projecting beyond the spire above, forming a deep sinus with the body, very little convex in the middle, rounded on joining the basal lip, which is oblique, straight, or lightly convex, regularly arched toward the oblique, high, arcuate, and very thin columella; inner lip very thin, spreading broadly beyond the pillar and upon the short, strongly convex parietal wall.

Diam. maj. 7, min. 3.5; height 8.8 mm. Type.

„ 12 „ 6 „ 13.5 „ Large specimen.

Animal (Fig. 15) flattened, elongate, yellowish-white, the head-disc oblong, with a distinct longitudinal median groove, much longer than the posterior quadrangular mantle-shield, which entirely covers the shell. The parapodial lobes long, but not high.

The masticatory plates (Fig. 17) are lozenge-shaped, devoid of perforations, dark brown, outer surface hollowed, with a central

longitudinal flat bar, leaving a triangular groove on each side of the middle; inner face convex, the central part with a broad longitudinal median groove. The outer layer of these plates consists of calcium-carbonate, the inner and greater part is chitinous, insoluble in acid and alkali.

The length of the animal figured is 20 mm., that of the gizzard plates 5 mm.

Radula having the formula 1-0-1. There are about twenty longitudinal rows of teeth (Fig. 16), falciform, light brown, finely serrate at the inner lower edge, the denticles simple.

Hab.—Akaroa Harbour, in 4-6 fathoms; type (H. S.). Wet Jacket Arm, near Resolution Island, in 12 fathoms (Captain J. Bollons). Dredged on sandy flats, Rangitoto Channel (Cheeseman).

The sculpture is exactly like that of the species (Trans. N.Z. Inst., vol. xxxviii, p. 278), but the form of the shell is different, not contracted above. It seems to me very probable that if series of these molluscs, obtained at different localities and from various depths, could be examined, intermediate forms would be forthcoming; however, with the scanty material at my disposal, I consider it preferable to keep the two forms separate for the present. The sculpture alone suffices to distinguish the shell from *P. Angasi*, Crosse, and *P. aperta*, L.

No doubt *Philene teres*, Hedley, recommended by Webster to be added to Fauna List (Trans. N.Z. Inst., vol. xxxvii, p. 280), is not Hedley's species at all, but this subspecies. Type in my collection.

SIPHONARIA COOKIANA, n.sp. Pl. XI, Fig. 18.

Shell small, solid, oval, depressed, conoidal, radiately ribbed, with subcentral apex. Sculpture consisting of about seventeen smooth, rounded primary ribs, extending from the summit to the margin, the interstices with one, rarely two or three, secondary riblets, which do not reach the apex; the anterior primary rib above the siphonal groove is thicker than the others and divided by a median groove; growth-lines fine, close, concentric. The riblets are sometimes projecting a little at the margin. Colour black, the riblets white on approaching the base, but usually the shell is greyish-white, the interstices dark brown; interior purplish-brown, polished, the groove white, usually with a broad oval white spot at the centre, the margin white or white and brown. Apex sharply rounded, more or less eroded, situate a little behind the middle and to the left; slope lightly convex all round. Interior with the muscle-scar horseshoe-shaped, interrupted on the right side by the shallow groove. Margin sharp, lightly lacinate. Diam. 9, length 12, height 4.5 mm.

Hab.—Lyal Bay, Cook Strait; type (Miss Mestayer). Preservation Inlet, South Island.

It is allied to *S. exulorum*, Hanley, from Norfolk Island, which, however, is a thinner, more depressed species, with more numerous riblets, and without the interior white central spot and the white groove. *S. amara*, Nutt., from New Guinea, is also a near relation, but also with more numerous riblets and devoid of the central white spot. Type in my collection.

SERPHO MATTHEWSI, n.sp. Pl. XI, Fig. 19.

Shell small, turbinate, perforate, thin and fragile, radially ribbed, not shining. Sculpture consisting of fine, inequidistant, retractive, flexuous radial riblets on the post-nuclear whorls, extending on the base down to the perforation, six to eight per millim.; all whorls have fine and dense microscopic spiral striae passing over the riblets, and decussating the fine growth-lines of their interstices. Colour: protoconch light yellowish with arcuate radial fuscous streaks, which are sometimes present on the next volution, but then become obsolete, giving place to a uniform light-brown colour, interrupted only by a whitish band below the suture and a white central disc on the base; riblets white. Epidermis thin, dull. Spire elevated, conoidal, apex rather blunt, outlines somewhat convex, its height the same as that of the aperture. Protoconch of $1\frac{3}{4}$ convex whorls, the nucleus very little convexly raised. Whorls $4\frac{3}{4}$ to 5, regularly increasing, convex; periphery regularly arched, base rounded. Aperture oblique, lunate. Peristome simple, sharp. Columella short, slightly arcuate; inner lip lightly callous, reflexed above, and partly covering the distinct narrow perforation; spreading broadly as a thin shining glaze over the parietal wall. Diam. maj. 7·5, min. 6·7; height 6 mm.

Hab.—Kaitaia, North Island (Mr. R. H. Matthews).

The animal being unknown, the generic position is not absolutely certain, but I hope to get some live specimens in the near future.

Named in honour of Mr. R. H. Matthews, of Kaitaia, the discoverer of this very pretty little shell. Type in my collection.

THERASIA ANTIPODA, H. & J., n.subsp. CHATHAMENSIS.

Pl. XI, Fig. 20.

The following characters distinguish the subspecies from the species: the radial sculpture consists of less prominent striae and plications; the rufous streaks are narrower, more numerous, and often zigzag-shaped; the whorls are much more convex, the last more or less angled at the periphery, never sharply keeled; suture deeper; aperture roundly oval, the outer lip but slightly angled, and the basal lip more convex. Diam. maj. 7·1, min. 6·5; height 4 mm.

Hab.—Chatham Islands; type (Captain Hutton). Stewart Island (C. Traill). Type in my collection.

FLAMMULINA COSTULATA, Hutton, n.subsp. PARVA.

Distinguished from the species by the following characters: the shell is smaller, sub-discoidal, and moderately umbilicated; the sculpture is the same, but the spirals on the protoconch are very faint; colour and colour-markings very similar, the brown streaks, however, extend usually over the base; the spire is very little raised; the umbilicus is moderate, deep, its diameter being ·6 mm. Diam. maj. 2·9, min. 2·4; height 1·3 mm.

Hab.—Henderson, near Auckland, in native bush amongst mould (H. S.). Type in my collection.

ENDODONTA (PTYCHODON) CHILTONI, n.sp. Pl. XI, Fig. 21.

Shell minute, sub-discoidal, umbilicated, very finely radially ribbed, thin and fragile, not shining. Sculpture of the post-nuclear whorls consisting of very fine, close, nearly straight radial riblets, about twenty-five per millim., the interstices with minute growth-lines. Colour yellowish-white, radially streaked with rufous. Spire very low, broadly convex. Protoconch of $1\frac{3}{4}$ smooth and convex whorls. Whorls 5, very slowly increasing, flatly convex; periphery and base rounded. Suture deep. Aperture slightly oblique, rotundly lunate within, with eleven slender, elongated, and low lamellæ: one on the parietal wall above the middle, one on the columellar lip, and nine on the outer wall. Peristome thin, sharp, straight, regularly arched. Columella very short, arcuate. Umbilicus wide, deep, perspective, about one-third of the greatest diameter. Diam. maj. 1.6, min. 1.4; height .9 mm.

Hab.—Kowai Bush, Canterbury (Professor Chilton). Named in honour of Professor Chas. Chilton, D.Sc., the discoverer of the unique specimen. Type in my collection.

ENDODONTA (CHAROPA) GAZA, n.sp. Pl. XI, Fig. 22.

Shell small, depressed, broadly umbilicated, radially closely costate, and spirally very distinctly lirate. Sculpture of the post-nuclear whorls consisting of equidistant, close, flexuous, rather low radial riblets, about eight to nine per millim., the interstices with numerous microscopic growth-lines, crossed by equidistant, narrow, rounded spiral liræ, separated by well-impressed linear grooves. Colour fulvous, sometimes with a few radial whitish streaks. Epidermis thin, horny, not shining. Spire low, broadly conoidal; in some examples, however, nearly flat. Protoconch of $1\frac{1}{2}$ smooth, convex whorls, flat. Whorls $5\frac{1}{2}$, rather slowly increasing, convex, the last flat above the periphery; base rounded. Suture deep. Aperture oblique, sub-triangular, angled above, broadly rounded below. Peristome sharp, the outer lip very slightly advancing and straight above the periphery, sharply rounded on meeting the broadly convex basal lip. Columella short, arcuate; inner lip lightly callous, but little reflexed above, and spreading as a white smooth callus over the convex parietal wall. Umbilicus wide, perspective, its diameter 1.7 mm. Diam. maj. 4.5, min. 4; height 2 mm.

Hab.—Big King, Three Kings Islands (Captain J. Bollons). The prominent spiral sculpture places this species near *E. egesta*, Gray, and *E. transenna*, Sut. Type in my collection.

ENDODONTA (CHAROPA) KENEPURUENSIS, n.sp. Pl. XI, Fig. 23.

Shell very small, sub-discoidal, moderately umbilicated, radially finely ribbed, thin and fragile. Sculpture of protoconch consisting of about eight fine, somewhat inequidistant spiral liræ; the succeeding whorls have fine, not very close, flexuous radial riblets, about twelve to thirteen per millim., the interspaces microscopically finely reticulated by growth-lines and spiral striæ, the latter being much finer and closer together than on the protoconch. Colour white, with a few distant

light-brown streaks. Epidermis thin, not shining. Spire flattish, very little elevated. Protoconch of $1\frac{1}{2}$ convex volutions. Whorls $4\frac{1}{4}$, regularly increasing, periphery and base rounded. Suture deep. Aperture oblique, lunate. Peristome thin and sharp, regularly arched. Columella short, vertical, arcuate; inner lip slightly expanded, and forming a thin callous layer on the parietal wall. Umbilicus moderate, its diam. .7 millim., deep and sub-cylindrical. Diam. maj. 2.7, min. 2.5; height 1.5 mm.

Hab.—Kenepuru, South Island.

This species is allied to *E. maculata*, Sut., which, however, has much more numerous riblets, about thirty per millim. Type in my collection.

ENDODONTA (CHAROPA) VORTEX, Murdoch, n.subsp. MICRORHINA.

Distinguished from the species by the following characters: the shell is somewhat larger, the radial riblets less elevated and slightly closer together, about twenty-two per millim., the interstices with numerous fine microscopic growth-lines and exceedingly fine and dense spiral striæ. Colour white or very light horny, without any markings. Protoconch smooth, no spiral lines. Diam. 1.9, height 1.1 mm.

Hab.—North Island, near Ormondville; type, Mount Wellington lava-fields. Hunua Range. *E. vortex* was described in these Proceedings, vol. ii, p. 160. Type in my collection.

LAOMA (PHRIXGNATHUS) COMPRESSA, n.sp. Pl. XI, Fig. 24.

Shell minute, depressed, perforated, yellowish-white, thin, shining. Sculpture of the post-embryonic whorls consisting of fine growth-lines and microscopic very fine spiral striæ, more distinct upon the base. Colour uniformly yellowish-white. Spire low, lightly convex, its height about half that of the aperture. Protoconch convex, smooth. Whorls 4, regularly and slowly increasing, convex; periphery sub-angled, base convex. Suture simple, impressed. Aperture lunate. Peristome thin and sharp. Columella short, arcuate; inner lip somewhat reflexed above. Perforation rather narrow, quite open, deep, about one-tenth of the greatest diameter. Diam. 1.4, height 1.25 mm.

Hab.—Birkenhead, near Auckland (A. Suter). Type in my collection.

LAOMA (PHRIXGNATHUS) TRAILLI, n.sp. Pl. XI, Fig. 25.

Shell small, turbinate, perforated, corneous with light-brown zigzag lines, thin, pellucid, polished. Sculpture: the shell has very fine growth-lines and obsolete microscopic spiral striæ on the base. Colour corneous, with very faint axial, narrow, brown, zigzag lines, sometimes indistinct or absent. Spire conoidal, convex, its height the same as that of the aperture. Protoconch blunt, smooth. Whorls 6, slowly and regularly increasing, convex; periphery sharply angled, base rounded, broadly infundibular around the perforation. Suture impressed, very lightly and narrowly margined below. Aperture lunate, transverse, oblique. Peristome sharp, simple, with an inner white callus; outer lip angled. Columella short, oblique; inner lip

expanded. Perforation deep, narrow, open, about one-fifteenth of the greatest diameter. Diam. 4·5, height 3·2 mm.

Hab.—New Zealand, exact locality not known. Collected by the late Mr. C. Traill.

The nearest species is *L. Cheesemani*, Sut., which, however, is not polished, has the base not depressed in the centre, the perforation nearly closed up, and the colour-markings are different. Type in my collection.

LAOMA (PHRIXGNATHUS) LIRATULA, n.sp. Pl. XI, Fig. 26.

Shell very small, turbinate, perforate, corneous with radial brown streaks, not shining, thin, periphery keeled. Sculpture consisting of very fine, dense, oblique growth-striae and very distinct microscopic spiral lines, which are finer and closer together on the protoconch. Colour corneous, with rather regular, broad, radial streaks, sometimes coalescing on the body-whorl; they are faint or absent on the base. Spire conoidal, its outlines almost straight, height the same as that of the aperture. Protoconch convex, of $1\frac{1}{2}$ turns. Whorls 5, regularly increasing, lightly convex; periphery keeled, base rounded. Suture impressed. Aperture lunate, oblique. Peristome thin and sharp, strengthened inside by a thin callosity; outer lip sharply angled. Columella short, vertical, almost straight; inner lip expanded. Perforation moderate, about one-eighth of the greatest diameter, deep and quite open. Diam. 4·2, height 3 mm.

Hab.—New Zealand, exact locality unknown. Collected by the late Mr. C. Traill.

The rather wide and open perforation separates it from its near congener *L. Cheesemani*, Sut. Type in my collection.

LAOMA (PHRIXGNATHUS) ALFREDI, n.sp. Pl. XI, Fig. 27.

Shell minute, depressed-globose, perforate, corneous, thin, pellucid, polished. The sculpture on the post-nuclear whorls consists of microscopic faint spiral lines, more distinct on the base; growth-lines sometimes rib-striate. Colour corneous; at irregular intervals there are radiate white lines on the last two whorls, produced by the narrow callosity left of former peristomes. Spire conoidal, its height equal to that of the aperture; outlines lightly convex. Protoconch flatly rounded, smooth. Whorls 5, slowly and regularly increasing, convex; periphery sub-angled, base flatly rounded. Suture impressed, faintly margined. Aperture oblique, lunate. Peristome simple, straight, with a conspicuous inner white callus; outer lip descending rapidly and but little arched. Columella short, subvertical, arcuate; inner lip slightly expanded. Perforation narrow, deep, open, about one-twelfth of the greatest diameter. Diam. 2·5, height 1·6 mm.

Hab.—Birkenhead, near Auckland (A. Suter).

This species stands nearest the imperforate *L. lucida*, Sut. It is named after my son Alfred, who discovered it. Type in my collection.

LAOMA (PHRIXGNATHUS) FULGURATA, n.sp. Pl. XI, Fig. 28.

Shell very small, depressed, almost imperforate, horny, with broad streaks and zigzag lines of brown, not shining, thin and pellucid,

periphery sharply angled. Sculpture consisting of exceedingly fine and dense growth-lines and distinct microscopic spiral liræ on the base. Colour corneous, with irregular brown streaks on the upper surface, but forming rather regular, broad, zigzag lines on the base. Spire depressed, broadly convex, its height less than that of the aperture. Protoconch flattish, of $1\frac{1}{2}$ smooth volutions. Whorls $4\frac{1}{2}$, regularly increasing, flatly convex, the last rather high in proportion; periphery sharply angled, base convex, a little depressed in the centre. Suture not much impressed, simple. Aperture oblique, transverse, lunate. Peristome thin and sharp, outer lip angled. Columella subvertical, short, arcuate; inner lip reflexed above and almost completely closing up the very narrow perforation. Diam. 3·2, height 2 mm.

Hab.—Waitakerei Range, North Island (H. S.).

Its nearest congener, *L. Ariel*, has distinct radial riblets and the spire much more elevated. Type in my collection.

LAOMA (PHRIXGNATHUS) VIRIDULA, n.sp. Pl. XI, Fig. 29.

Shell minute, depressed, globose, sub-perforate, corneous, very thin, translucent, lightly shining, smooth. Sculpture microscopic, the post-nuclear whorls with fine oblique growth-striæ, reticulated by distinct fine spiral lines. Colour corneous, with a greenish hue. Spire depressed, conoidal, its height a little less than that of the aperture; outlines almost straight. Protoconch of $1\frac{1}{2}$ convex whorls, smooth. Whorls 4, regularly increasing, convex; periphery rounded, lightly sub-angled, base convex, impressed at the middle. Suture rather deep. Aperture oblique, broadly rotundly lunate. Peristome simple, sharp and thin, regularly arched. Columella short, arcuate; inner lip reflexed above, and almost completely closing the narrow perforation. Diam. maj. 2·5, min. 2·3; height 1·7 mm.

Hab.—Capleston, near Reefton, South Island. Type in my collection.

TORNATELLINA SUBPERFORATA, n.sp. Pl. XI, Fig. 30.

Shell very small, conoidal, sub-perforate, thin, pellucid, shining, light corneous. The only sculpture consists of fine oblique growth-lines. Colour very light horny. Epidermis very thin, light brown, very easily rubbed off. Spire elevated conic, a little higher than the aperture. Protoconch globose. Whorls 5, convex, the last rapidly increasing, ventricose; base rounded. Suture impressed, faintly and narrowly margined. Aperture subvertical, ovate, angled above. Peristome thin, sharp; outer lip moderately convex, basal lip narrower, arched. Columella vertical, not twisted; inner lip thin, broadly reflexed above, and partly concealing the very narrow and not deep perforation. Parietal wall with an entering median small lamella. Diam. 2·2, height 3·5 mm.

Hab.—Whangarei Heads; type (Mr. C. Cooper). Near Auckland (H. S.). Raoul Island, Kermadec Islands (Miss Shakespeare).

The inflated body-whorl, the straight, not tortuous columella, and the narrow perforation separate it at once from *T. Novoseelandica*, Pfr. Type in my collection.

PECTEN (CHLAMYS) DICHOUS, n.sp. Pl. XI, Fig. 31.

Shell triangularly orbicular, moderately inflated, sub-equilateral, somewhat inequivalve, with rather distant rounded radial ribs; valves differently coloured, ears very unequal, the anterior large, the posterior very small. Beaks approximate, the prodissoconch small, oval, smooth. Anterior and posterior ends similar, slightly concave above, then forming a half-circle with the basal margin; right valve slightly more convex than the left, with a rather large triangular anterior ear with four radial costæ, crossed by strong and close imbricating growth-lines, a distinct byssal sinus below, and a row of teeth below it on the anterior margin (ctenobium); the posterior ear very small, triangular, with a few concentric riblets; left valve with the anterior ear also triangular, the anterior side straight or lightly sinuous, with about six scaly radiate riblets, the intercostal spaces with one or two fine scaly lines. Sculpture consisting of sub-equidistant rounded radial ribs, indenting the margins, their number varying from sixteen to twenty on each valve; they are broadly or acutely rounded, sometimes ornamented with scales, more prominent on the left valve; towards the margin the ribs have often one or several grooves, and in the interstices one to three radial fine riblets may be present; besides this sculpture there are minute divaricating radial lines (the so-called *Camptonectes* striation). The concentric sculpture consists of very fine and rather close undulating and slightly imbricating layers. Colour of right valve whitish, lightly tinged with pink, rarely yellowish-brown all over; left valve always much darker coloured, white with red concentric spots and bands, or reddish or yellowish-brown, sometimes mottled with white. Inside shining, white or stained with red, strongly grooved, the margins sharp, dentate, or crenulate. Hinge-line long and straight, the resilifer triangular, not very deep, its margins rather sharply raised. Ligament external, narrow. Length 32, height 36, diam. 10 mm.

Hab.—A number of valves were found in the stomach of a Blue-Cod (*Parapercis colias*, Forster) caught in Port Pegasus, Stewart Island, and kindly given to me by Captain Bollous. This fish is found in New Zealand waters only: East of Jones Head, in 20 fathoms; 19 miles south of Oamaru, in 40 fathoms; off Lyttelton, in 100 fathoms (Mr. Edgar R. Waite).

This species is allied to the Miocene *P. Chathamensis*, Hutton (Cat. Tert. Moll. N. Zeal., p. 29), but this form has the ribs more scaly, the scales more distant; the ribs show no tendency to division towards the margins. The anterior ear of the right valve is not large, has no byssal sinus, and there is of course no ctenobium. The form and size of the shell and the number of ribs are about the same as in the recent species. Type in my collection.

EXPLANATION OF PLATE XI.

FIG.

1. *Rissoina zonata*, n.sp. 4·5 × 11·5 mm.
2. *Skenella Pfefferi*, n.sp. ·8 × ·45 mm.
3. *Trophon (Kalydon) Aucklandicus* (Smith); operculum.
4. *Id.*, radula.

